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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,688	02/08/2002	Charles J. Kuehmann	04019.00021	2082

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EXAMINER

YEE, DEBORAH

ART UNIT	PAPER NUMBER
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1742

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DATE MAILED: 02/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant N .

10/071,688

Applicant(s)

KUEHMANN ET AL.

Examiner

Deborah Yee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____ .
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-122 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-122 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____ .
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8,9,10,32 to 35,38, 43 to 45,48 to 57,59 to 61,71,72,78 to 81, 84 to 93, 96 to 104,110 ,111,121 and 122 are rejected under 35 U.S.C. 102(b) as being anticipated by Ernst et al (US Patent No. 6,030,469), Shibata et al (US Patent 6,117,388) or Campbell publication (submitted by applicant in IDS filed 7-19-02).

Ernst discloses specific alloy example AP1 to AP11 in Table 1 of columns 11 and 12 which meet the claimed composition recited in claims 110 and 111, and have a fine grain size of less than 50 microns which meets claims 121 and 122. Also in regard to the process limitations, see claim 14, column 14 wherein prior art alloy is solution heat treated to 1150 to 1200C with a holding time of 0.5 to 15 hours followed by cooling and tempering for 0.5 to 25 hours at temperatures between 600 to 820C which meets one or more of the process claims.

Shibata discloses specific example 12 in Table 1 of columns 5 and 6 which meet claims 1, 110 and 111, and processed by homogenizing, hot forging, solution anneal at 1050C for 3 hours followed by air cooling and tempering at 700C (lines 30 to 42 column 6 and lines 29 and 30, column 7).

Campbell discloses Zanalloys, Ingot V96-30-1 and Ingot V96-30-2, on page 159 which meet the composition of claims 1,110 and 111. Moreover, steel has an Ms of 291C+/-10C, and is subjected to solution treatment temperature of 950 to 1150C followed by oil quenching and liquid N2 quenching and tempering at 200C for 1 hour. A fine grain size of 30 microns is obtained with a solution treatment at 1050C. Also tempering was tested at 510C, 482C, and 450C, and hardness range according to Figure 7-4 is 46 to 54HRC, and case hardening with a surface hardness of 64HRC See pages 159 to 168 and 178.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 to 7, 11 to 31,36 to 37,39 to 42, 46 ,47,58, 62 to 70, 73 to 77,82,83,94,95,105 to 109,112 to 120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell publication (submitted by applicant in IDS filed 7-19-02).

Campbell discloses zanalloy, Ingot V06-30-1 and Ingot V96-30-2 on page 159 which closely meet the recited composition of claims 105 to 109. Although zanalloy contains slightly lower C, Cr, or Ni than recited by the claim, such would not be a patentable difference since applicant has not demonstrated that the more narrowly claimed alloy ranges is somehow critical or productive of new and unexpected results.

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Moreover Campbell on page 160 discloses cooling steel in liquid nitrogen gas which would be at sub-zero temperatures well within the ranges of -70°C and -195°C recited by claims 82 and 83.

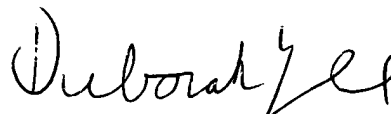
In regard to property limitations, it is the examiner's position that tensile strength, yield strength and toughness values of the prior art would be expected to have very similar values as recited by applicant's claims since composition and process limitations are very similar, and in absence of proof to the contrary. In particular, note page 165, lines 1 to 6 discloses zanalloy containing equally fine M2C alloy carbides.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 703-308-1102. The examiner can normally be reached on Monday-Friday from 6:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-873-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

dy
February 3, 2003


DEBORAH YEE
PRIMARY EXAMINER